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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/396,486	09/14/1999	JOSEPH URBANO	9994-8US	7505

7590 03/07/2006

Elsa Keller, Legal Administrator  
Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/396,486

Applicant(s)

URBANO ET AL

Examiner

Jaworski Francis J.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36, 46-49, 51-53, 55-57, 59-61, 63, 65 and 67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36, 46-49, 51-53, 55-57, 59-61, 63, 65 and 67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/26/05
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 – 36, 46 – 49, 51 – 53, 55 – 57, 59 – 61, 63, 65 and 67 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims variously of U.S. Patent No.6508763. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims claim reprogrammable logic elements in the form of reprogrammable logic devices or FPGAs in association with both beamformation and scan conversion structures such that both the apparatus and method claims are met since the latter pertain to obvious implementation of the respective structures. Since the patented structure implicitly has a functionality towards processing image data, both beamformation and scan conversion being essential aspects of that image data processing, the claiming of resident 'essential functionality' does not serve to distinguish.

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Claims 1 – 36, 46 – 49, 51-53, 55 – 57, 59-61, 63, 65 and 67 are again rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Wright et al and Cole et al, further in view of any of Doi et al, Muzilla, Deitrich et al, Snyder or Morrow as argued in the prior Office action and to the extent this rejection carries forward to claims remaining after late entry of the Preliminary Amendment first filed June 27, 2000, and also further in view of (a) Scheib et al (US5628321) or Pflugrath et al (US5603323) or alternatively (b) Hall (US5394520) or Zellenga et al (US5144242) or Friemel et al (US5709209)..

With regards to the base reference combination with secondary teachings not antedated by the Rule 131 Affidavit, applicants contend on page 5 of the Amendment response that whereas the secondary references do use re-programmable logic it does not provide essential functionality to the subsystem(s) in which it resides. It is submitted that this terminology is subjective and met by the application of the previously provided art in the sense that since the various assembly functions cannot be discharged without functioning of the re-programmable device portions then these devices are not reasonably characterizable as non-essential to functionality of the subsystem in which they are resident . With regards to the more than one/less than three limitation incorporated into certain of the base claims by the aforementioned Pre-amendment, since a device is synonymous with apparatus one may point to a bank of logic units and assign them a rank of 'one device'.

With regards to further reference teachings under (a), if it is accepted that the RPLD devices taught in the secondary teachings are non-essential in the sense of

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peripheral, then it would have been obvious in view of Scheib et al (Col. 5 lines 36 – 48) or Pflugrath et al (col. 5 lines 8 – 26) to use a re-programmable device such as an EEPROM to receive for temporary execution a software logic for control of one or more of an ultrasound imaging or computational subsystem since this allows the programmer to correct for error and the system to re-configure after execution of the specialty application.

With regards to further reference teachings under (b), since the use of RPLDs was known in imaging systems, see Hall col. 7 lines 1 – 18 or Zellenga et al as a medical imaging system, see Figs. 7-11 and 13 variously EPLD sequencing control of an MRI scanning protocol therein, broad claims to all possible functionalities within imaging systems which are ultrasound in mode appear to be predatory upon the general progress in imaging science into adopting these devices into core functionalities. Additionally, Friemel et al col. 9 lines 14 – 24 evidences that row column FPGA units were known to provide data processing functions for both scan conversion and transmit and receive beamformation as discussed extensively in this specification.

### **Response to Amendment Arguments**

The carrying forward of the rejection involving secondary teachings Doi et al, Muzilla etc. is in effect an argument that one cannot parse 'essential functionality' in an ultrasound imaging subsystem since if the component will not function or is disabled by malfunction of the RPLD then that device was essential to functionality Newly lodged

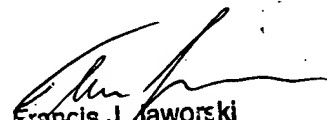
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supplemental rejections argue that at least EEPROM type re-programmable devices were known to extend to core functionalities in controlling scan operation and specialty calculations within medical imaging systems, and alternatively at least EPLD use was extended to core functionalities of imaging systems in general and to medical imaging systems in particular. Additionally, Friemel et al evidence that it was known to provide data processing control for essential functions of beamformation and scan conversion to an FPGA architecture.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738

FJJ:fjj

030306

  
Francis J. Jaworski  
Primary Examiner